Coalition for a Sustainable Delta

May 19, 2011

VIA E-MAIL

Phil Isenberg
Chair, Delta Stewardship Council
650 Capitol Mall
Sacramento, CA 95814
deltaplancomment@deltacouncil.ca.gov

Re: Comments on the Third Staff Draft Delta Plan

Dear Chairman Isenberg:

The Coalition for a Sustainable Delta (Coalition) is writing to provide comments on the Delta Stewardship Council (Council) Third Staff Draft Delta Plan (Draft Plan).

There are a number of components and approaches that are essential for a Delta Plan that will achieve the co-equal goals mandated by the Legislature that are currently lacking in the Draft Plan. Fundamentally, the Draft Plan remains almost exclusively focused on flow/exports and demand management with little consideration given to other activities that impact the continued viability of the Delta. We have previously provided the Council significant information on other stressors that are impacting the Delta ecosystem, including predation, water quality, in-Delta diversions, and development, yet the Draft Plan neither requires nor recommends actions to address these issues. This is a major flaw in the Draft Plan that must be corrected if the Council is going to meet the requirements of the Delta Reform Act. The Public Policy Institute of California (PPIC) and Interagency Ecological Program (IEP), two entities that have studied and opined extensively on the Delta, have acknowledged that it is a complex system and merely addressing flow is not likely to the Delta's ills, yet the Draft Plan continues to be focused on exports and flows as the primary management measure. Public Policy Institute of California, *Comparing Future for the Sacramento-San Joaquin Delta* (2008); Interagency Ecological Program, *2010 Pelagic Organism Decline Workplan and Synthesis of Results* (2010). The Draft Plan should identify current authority to address these other stressors and detail specific actions that can be taken in the short- and long-term to deal with the other activities that are contributing to the decline of the system. Without doing so, the Delta Plan will be nothing more than another regulatory mechanism to address flows and will not meet the requirements of the Delta Reform Act to achieve the co-equal goals of water supply reliability and a restored Delta ecosystem.

As a starting point, the Delta Plan must articulate a clear vision for what the Delta should look like in the future; this likely involves limitations on resource use within the Delta,

including agriculture and additional development, in order to allow for long-term sustainability of the region. More specifically, the land use planning component of the Delta Plan should provide a realistic vision for what the Delta will physically look like in the future at designated intervals (for example, 10, 25, 50 and 100 years), taking into account sea level rise as a result of climate change, likely development, and restoration/preservation activities, and, the Plan should contain enforceable land use planning mechanisms to ensure that additional development does not occur in sensitive areas within the Delta, including those areas that are significantly flood-prone or that provide important habitat for native species, and that certain important areas are restored to provide habitat for native species. Currently, the Draft Plan lacks a clear vision for the future Delta; in fact, there are no maps setting forth an understandable roadmap for the Delta throughout the course of Plan implementation. In multiple reports on California water issues, the PPIC has set forth its vision for a future Delta. Public Policy Institute of California, *Comparing Future for the Sacramento-San Joaquin Delta* (2008); Public Policy Institute of California, *Managing California's Water: From Conflict to Reconciliation* (2011). This PPIC map depicts in some detail the specific areas within the Delta that should be targeted for habitat protection and restoration, continued agricultural use, development, and levee restoration. *See* p. 70 of 2008 report and p. 220 of 2011 report. While PPIC's recommendation might not necessarily be the approach adopted and implemented by the Council to comply with the co-equal goals mandated by the Legislature, its comprehensive work should be used as an appropriate starting point to develop a clearly articulated vision for the future Delta. Without such a vision for the future Delta, it is difficult to see how the Council can adopt and implement a Delta Plan that meets the co-equal goals and other requirements of the Delta Reform Act.

We continue to be disappointed to not see any substantive discussion of new through-Delta conveyance as a component of the Draft Plan, nor any real attempt to incorporate the work that has been done as part of the Bay Delta Conservation Plan, including analysis of conveyance alternatives. New conveyance systems that allow for diversions to occur at a time and place when there is a lesser impact on the ecosystem is necessary to improve overall conditions in the Delta and address the Draft Plan's finding regarding entrainment impacts associated with the water projects; improved conveyance has been repeatedly recognized by leading experts in the area, including the Delta Vision process and the PPIC, as a part of the solution to the Delta crisis. Improved conveyance likely requires an isolated through-Delta facility and increased storage capacity north and south of the Delta to better manage runoff and pumped water, and increased use of groundwater storage to mitigate inter-annual variability of supplies. In addition, the enhanced flexibility provided by new conveyance facilities would help to address the depletion of groundwater basins in the Central Valley. A Delta Plan that fails to acknowledge and incorporate specific recommendations regarding improved Delta conveyance will fall short of the co-equal goals mandated in the Delta Reform Act.

In addition, we remain very concerned about the regulatory approach being taken in the Draft Plan. Instead of "promoting" conservation and regional self-sufficiency as mandated by the Delta Reform Act (Section 85303), the policies in the Draft Plan seek to impose additional reporting and planning requirements on water suppliers that receive

water exported from the Delta. Such an approach goes beyond the scope of the Delta Reform Act. Instead of imposing additional mandates on local water supplies, the Delta Plan should focus on development and implementation of a more comprehensive and integrated state-wide water supply assessment and management system to better understand and address the State's water supply crisis and better assist local agencies in taking actions to improve overall reliability of their systems.

Finally, there remains in the Draft Plan a critical, and potentially fatal, gap in the application of science and adaptive management to the policy decisions that will inform development and implementation of the Delta Plan. In our comment letter dated April 4, 2011, we went into some detail regarding the appropriate definition and utilization of best available science and adaptive management in conservation planning and made a number of recommendations for the Delta Plan. We will not repeat these comments here, but instead attach the letter for reference, and request that the Council and staff consider these comments in revising the sections on science and adaptive management in order to develop and implement a real science-based set of solutions to the resource and ecosystem management challenges in the Delta.

The Coalition appreciates the opportunity to comment on the Draft Plan and would be happy to discuss these comments in greater detail at your convenience.

Coalition for a Sustainable Delta

By: William D. Phillimore, President

Coalition for a Sustainable Delta

April 4, 2011

Phil Isenberg
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Re: Science and adaptive management in the draft Delta Plan

Dear Chairman Isenberg,

The Coalition for a Sustainable Delta ("Coalition") respectfully submits the following comments regarding the science and adaptive management components of the draft Delta Plan, including Chapter 2, to the Delta Stewardship Council ("Council"). The Coalition consists of persons and entities that are engaged or interested in agricultural activities in the Central Valley, and its members depend on the Sacramento and San Joaquin river systems for substantial portions of their water supply. The Coalition is engaged in a wide array of activities to protect the Delta and its native species, and is committed to promoting strategies to ensure the sustainability of the Delta's ecosystems.

The Coalition is heartened to see a commitment by the Council to the use of good science and implementation of adaptive management in efforts to restore the Sacramento-San Joaquin Delta. But, the descriptions of those two programmatic elements in Chapter 2 of the Council's draft Delta Plan leave many questions unanswered about how that commitment to a new approach to Delta restoration will be realized. The Council undoubtedly is mindful that its CALFED predecessor made many formal and some less formal promises to use reliable scientific knowledge as a guide to its policy and management actions, using many of the same words used in the current draft Chapter 2– and CALFED fairly can be described as having failed to a significant extent in that endeavor. While CALFED scrupulously avoided declaring its commitment to adaptive management – its constituent resource agencies were unwilling to commit to the shared responsibilities and realigned prerogatives required of an adaptive management program – the interagency effort flew the flag of sound science for a decade without realizing the benefits that such an allegiance should have delivered. Instead, promises of science-driven management, rather than management-driven science (the latter being preferable to the former in our view),

have manifested as agency determinations, regulatory findings, and management actions, which have had anything but valid grounding in good science.

As a federal court has recently found in its summary judgment decision in the *Consolidated Delta Smelt Cases*, 717 F. Supp. 2d 1021 (E.D. Cal., 2010), which challenged the adequacy of the biological opinion for delta smelt issued by the U.S. Fish and Wildlife Service (FWS), the best available science was not used in the development of water supply management prescriptions for the federal and state water projects. And, preliminary injunction rulings on salmonids (and other species) by the National Marine Fisheries Service (NMFS) made by the same federal judge indicate that similar conclusions may soon be forthcoming for management measures developed to protect other fishes in the Delta. It is in the application of technical information and available knowledge through the regulatory authority of the federal wildlife agencies that "best available science" should be guiding resource management and conservation of the Delta. The court says that it is not. Not clear from Chapter 2 is how a commitment to using best scientific information by the Delta Stewardship Council might compel the federal regulatory agencies to follow in suit.

There are far too many recent examples of the failure of the regulatory agencies to use best science in water supply management decisions. Invalid or unreliable findings from poorly designed studies too frequently seem to define the approaches to hydrological management that target at-risk species and other ecological values in the Delta. The FWS, for example, is fully committed to using X2 as the indicator of habitat for delta smelt, despite ample documentation that the species survives in a broad array of salinity conditions in the estuary and actually spawns in freshwater. While it is clear that the low-salinity zone does not define the distribution of delta smelt or habitat for the species, and the species now nearly exclusively persists in the northern portions of the estuary, FWS insists on manipulating export flows from the south Delta as a dominant conservation strategy. And, as the most reliable available science would predict, the delta smelt continues its precipitous decline, with FWS devoting inadequate attention to the actual environmental stressors that impact the species. And, NMFS, in support of its conservation strategy for fishes in the Delta, has produced water export management guidance using data from hatchery-generated fall and late fall run Chinook salmon as a surrogate for wild Chinook salmon in different runs, for steelhead, and even for green sturgeon – all without any attempt at validation, and counter to two decades of warnings against using such information in published papers the conservation biology literature. (D.D. Murphy, P.S. Weiland, and K.M. Cummins, *Surrogate species in conservation planning: a cautionary tale from the California Bay-Delta*. Attached, in review in Conservation Biology.) This conservation strategy is inconsistent with use of the best available scientific information.

Likewise, the California Department of Fish and Game (DFG) devised a set of flow recommendations for the Delta pursuant to its statutory mandate that is unsupported

by the best available scientific information. Many salient shortcomings in those recommendations were identified by an independent review panel, which assessed the DFG *Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta*. Among other things, the panel identified "the use (or lack of use) of citations in the Draft" as a critical shortcoming of the agency document. The panel opined "the best available science would have involved a different set of analyses and approaches than was taken in the Draft." DFG misrepresents available science in its flow recommendations, for example, contending "[t]he NAS (2010) review panel concluded that the fall X2 criteria is conceptually sound, but expressed concern about the uncertainty associated with its potential benefits." In fact the National Research Council (NRC) Committee on Sustainable Water and Environmental Management in the California Bay-Delta (in its *A Scientific Assessment of Alternatives for Reducing Water Management Effects on Threatened and Endangered Fishes in California's Bay* Delta) described the relationship between delta smelt populations and the position of X2 as "poor and sometimes confounding," and stated that "[t]he weak statistical relationship between the location of X2 and the size of smelt populations makes the justification for this action difficult to understand."

The NRC Committee recommended the use of adaptive management, further study, and a review to determine "whether the action should be continued, modified, or terminated." Instead of conducting its own analysis in accordance with the NRC Committee's recommendation, DFG simply adopted the flow criteria relating to fall X2 set forth by FWS. Thus, DFG has incorporated the same faulty analysis of fall X2 flow criteria for the protection of delta smelt criticized by the NRC Committee and invalidated in federal court. Incorrect interpretation of standing scientific information and conclusions drawn from that information led the independent review panel to level a series of as yet unaddressed criticisms against DFG, including the criticisms that "[c]ritical assumptions and areas of major uncertainty are not described," that "[t]he Draft frequently relies on some sources to the exclusion of scientifically superior sources," and that "[t]he Draft does not acknowledge the uncertainty associated with most of the modeling work referred to in the Draft." Unfortunately, these criticisms apply with equal force to the State Water Resources Control Board flow criteria, which DFG relied upon heavily in devising its own flow criteria. These examples illustrate several of the many portholes through which best scientific information should be – but is not – passing into the process of informing essential regulatory findings and management actions in the Delta. Chapter 2 would benefit from a description of how the Council might compel the many federal and state agencies in the Delta to identify and use best scientific information in meeting their obligations and carrying out their roles in the Delta.

The Council undoubtedly recognizes how far directed research and monitoring in the Delta must evolve to meet the minimum standards necessary to provide the reliable

information required of an interagency adaptive management program. With that in mind, to suggest that the CALFED model, or its constituent programmatic elements, might provide a ready template from which an adaptive management scheme for the Delta might be built is unrealistic. The research and monitoring agenda that is necessary to support restoration of the Delta will have to be built from scratch. Chapter 2 of the draft Delta Plan describes characteristics of the Council's research agenda, which emphasizes such elements as investing in "young scientists and researchers," at the same time welcoming and supporting "alternative ways of learning about the system." Those concerned about the fate of the estuary and the species it supports would prefer to see an unequivocal commitment by the Council to a research agenda that focuses attention on resolving the critical uncertainties that bedevil the ecosystem's managers, regulators, and planners who are challenged right now to sustain native species, to restore the ecological communities of the Delta, and at the same time to allocate water for multiple other beneficial uses. While CALFED generated an active program supporting "young" post-doctoral scientists, it could not quite get around to a programmatic emphasis on answering the most vexing questions regarding the state of the natural resources and threats to those resources in the Delta. And now, a decade and hundreds of millions of dollars in research funding later, the Council faces its stewardship duties without anything approaching a clear understanding of the relationships between the Delta's species and ecological communities, and the factors that stress and compromise them. The Council should distance itself from the failed science approach of the past, and make the unequivocal statement that it supports the prioritization of research that will provide immediate and explicit guidance to resource managers and those making agency determinations related to water allocation, regulation of contaminants, restoration of habitat for imperiled species, and other immediate ecosystem management challenges.

Under the header "science to understand change," Chapter 2 fairly acknowledges that an "ongoing investment in research is essential for understanding how the system changes over time." In this context, we urge the Council to recognize that well-designed and effectively implemented monitoring is arguably the most important and essential fundamental form of research in support of ecosystem management in the Delta. In the aquatic ecosystems of the Delta and in reference to the declining fishes in the system, it is the limited data from monitoring that constitutes virtually all of the available information from which inferences can be drawn on the health of the Delta's ecological communities, the status of at-risk, native species, and the causes of ecosystem decline (and not from controlled and replicated field experiments, of which precious few have been carried out in the Delta and similarly few have been proposed and funded). In that light, activating the short-list of directives to guide that research on pages 9 and 10 will do little to produce the changes from the science status quo that are necessary for a really effective Delta research agenda. The six research principles presented – research needs to be relevant, objective, inclusive, etc. – are a laudable starting point, but, frankly they ask scientists and those in the

agencies to behave as we all already expect them to, as they produce reliable and value-neutral technical products and guidance that should contribute to effective management decisions and actions. It is rather disappointing that those six elements have to be reiterated to Delta managers and technical staff, but they do – and, those elements alone are not nearly sufficient. The Council needs to dig deeper into research and monitoring and their application in order to develop and implement a real science-based set of solutions to the resource and ecosystem management challenges in the Delta.

Data collection and interpretation, as research and as monitoring, is not exclusively in the purview of expert scientists in the Delta. It is mostly being designed and carried out by personnel, many of whom likely lack training in the essential protocols of data collection and research design and implementation. Furthermore, there is evidence that in some cases technical competence is wanting. For example, the delta smelt biological opinion does not reflect an understanding of the fundamental concept of habitat. With the assistance of the Independent Science Board, the Council's needs to elevate, issue by issue, the contribution of science to policy and management; steering those who will implement the Delta Plan to the best available scientific information and tools for the task. Peer review has its value in planning for the Delta, but it cannot remedy defects in analyses or syntheses, such as refusal to consider spatially explicit data or employ life-cycle models and population viability analysis. (D.D. Murphy and P.S. Weiland*, The Route to Best Science in Implementation of the Endangered Species Act's Consultation Mandate: The Benefits of Structured Effects Analysis* Environmental Management 47: 161-172, attached.) Without adequate expertise and resources, the regulatory agencies operating in the Delta cannot find and use good science on their own, irrespective of the quality of independent scientific review that occurs.

The use of science – that is, available, reliable technical guidance from research and monitoring – to inform management and regulatory determinations in the Delta has been desultory. Chapter 2 points out that "[a]daptive management is not currently being used to its fullest extent in the Delta." We believe that adaptive management has not been implemented in any context in the Delta, and the most fundamental element of adaptive management – a reliable monitoring program targeting listed and other desired fishes, other important ecological attributes of the Delta ecosystem, and the stressors that contribute to the ongoing declines in the conditions of both – has remained as an unresolved point of discussion to this day. The delta smelt survey and sampling scheme, for example, is lacking in rigor, design, and integration to such an extent that a simple, functional map of the geographic and temporal distribution of delta smelt remains unavailable fully 18 years after the species was federally listed. Data on the status and demographic trends of that flagship species in the Delta drawn from five different monitoring programs shows clearly that none of those sampling schema are designed in spatial and temporal context to characterize adequately the distribution, size, and population trajectory of delta smelt in the estuary, much less

get to the essential environmental causes of the species' imperilment. The Council will find that standing data sets from monitoring efforts in the Delta are derived from schema lacking the sampling design that is necessary to answer any of the essential management-related questions facing Delta planners. The Council must, in our view, oversee the establishment of rigorous and accountable monitoring schemes that target key physical and biotic resources in the Delta.

Although Delta restoration efforts can point to a number of interagency efforts – the Interagency Ecological Program (IEP) is perhaps the most visible – the Council presumably is aware that the most formative agency determinations and actions in the Delta have not been inter-institutional or collaborative. The Council can invoke good science as its operating principle and adaptive management as it organizing principle, but absent adaptive management, best science is reduced to a philosophical homily when the regulatory agencies that operate in the Delta do not commit similarly. The Council may emphasize a "plan-implement-decide" cycle in support of a Delta management, but the wildlife and other regulatory agencies must make that same commitment. Chapter 2 needs not just to describe the often-invoked attributes and values of adaptive management, but to tell the public how the Council will lead others to accept adaptive management as the organizing principle for Delta restoration and management.

The spare text of Chapter 2 fails to demonstrate that the Council fully appreciates the programmatic support elements that are necessary to realize adaptive management and other agency-generated and institution products that can be described as having been informed by best available science. The Council enjoys the guidance afforded by its Independent Science Board. The other putative "science" body is the IEP, a consortium of federal and state agency technical staff, which gathers data on the Delta environment, produces summary reports, and a newsletter that reports on ongoing studies and recent findings from agency data collection efforts. The IEP's conduct is not always consistent with generally accepted scientific practices – its data collection efforts are seldom carried out using rigorous experimental frameworks and its reports are neither in the format of scientific presentations nor subjected to independent scientific review. Accordingly, Delta planners cannot consistently rely on IEP products as the best available scientific information. The Delta restoration effort is then not especially well served by science at the delivery and application levels at which management decisions are made and implementation actions are carried out.

The Delta restoration effort that extends before the current Council will require a substantially more evolved, integrated, and synthesized science program than is alluded to in Chapter 2 of the draft Delta Plan. The necessary technical support for that effort must extend beyond the Council's ISB and the agencies' biologists and hydrologists. Toward the goal of effective policy and management that is well-informed by science and an implementation program that meets the definition of

adaptive management, we urge the Council to recognize that all affected parties in the Delta should have an opportunity to contribute. From the aforementioned biological opinions and the ongoing BDCP, to composition the Council's ISB and identification of the tasks in front of it, Delta stakeholders and their views have been effectively marginalized. The wildlife agencies, in particular, have an established relationship with stakeholder interests and their technical experts that has been aggressively adversarial. Continuation of that dysfunctional dynamic virtually assures that the ultimate resolution of the most pressing environmental challenges in the Delta will continue to be determined in the courts.

The Coalition encourages the Council to reach beyond a platitudinous listing of the steps necessary for a passive form adaptive management for the Delta. The Council needs to explain to the public, how it could be that the approaches to adaptive management in the CALFED Bay-Delta Program planning document published in 2000, which is cited in Chapter 2, can be just as relevant and potentially productive eleven years later -- yet it was not implemented. Why should concerned Californians have reason to believe that adaptive management can be implemented in this coming decade, given the failure of government to do so in the past? How will the Council induce the necessary changes from Delta-business-as- usual-management to realize the adaptive management directive?

As we offer these comments to the Council, we acknowledge the critique of the science and adaptive management portion of the draft Delta Plan by the ISB. We note that we agree with virtually all of the points raised by the ISB, and observe that the concerns we articulate above differ from and can be added to those conveyed by the Council's scientific advisors. We believe that neither the ISB's comments nor our own comments fully address the complete set of challenges posed by the Council's commitment to using the best available scientific information to support its many important efforts. We think that the Council could benefit from a more thorough accounting of how exactly science, and science through adaptive management, can and should be used to meet the emerging vision for a healthy and sustainable Delta that can provide the many ecosystem services that all Californians expect.

Coalition for a Sustainable Delta

By: William D. Phillimore